Real time data transmitter for
Vaisala Weather Station WXT520
(using GSM/GPRS, 3G [W-CDMA])

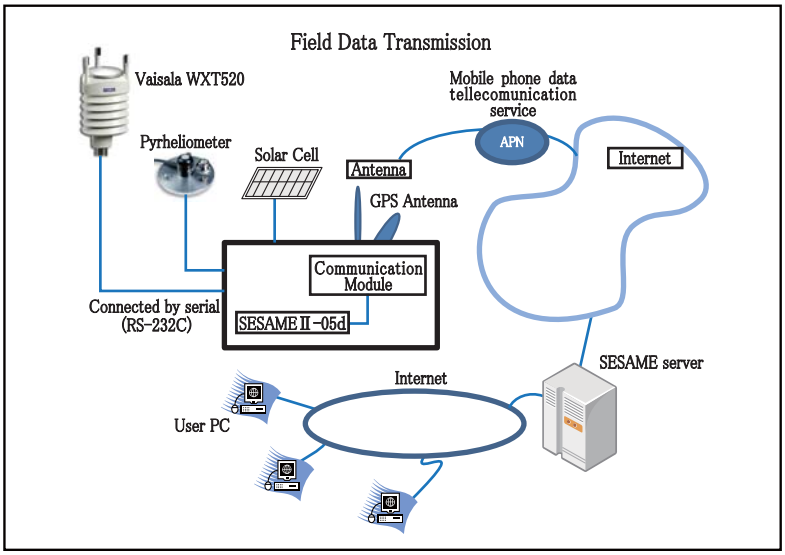
SESAME II-05d

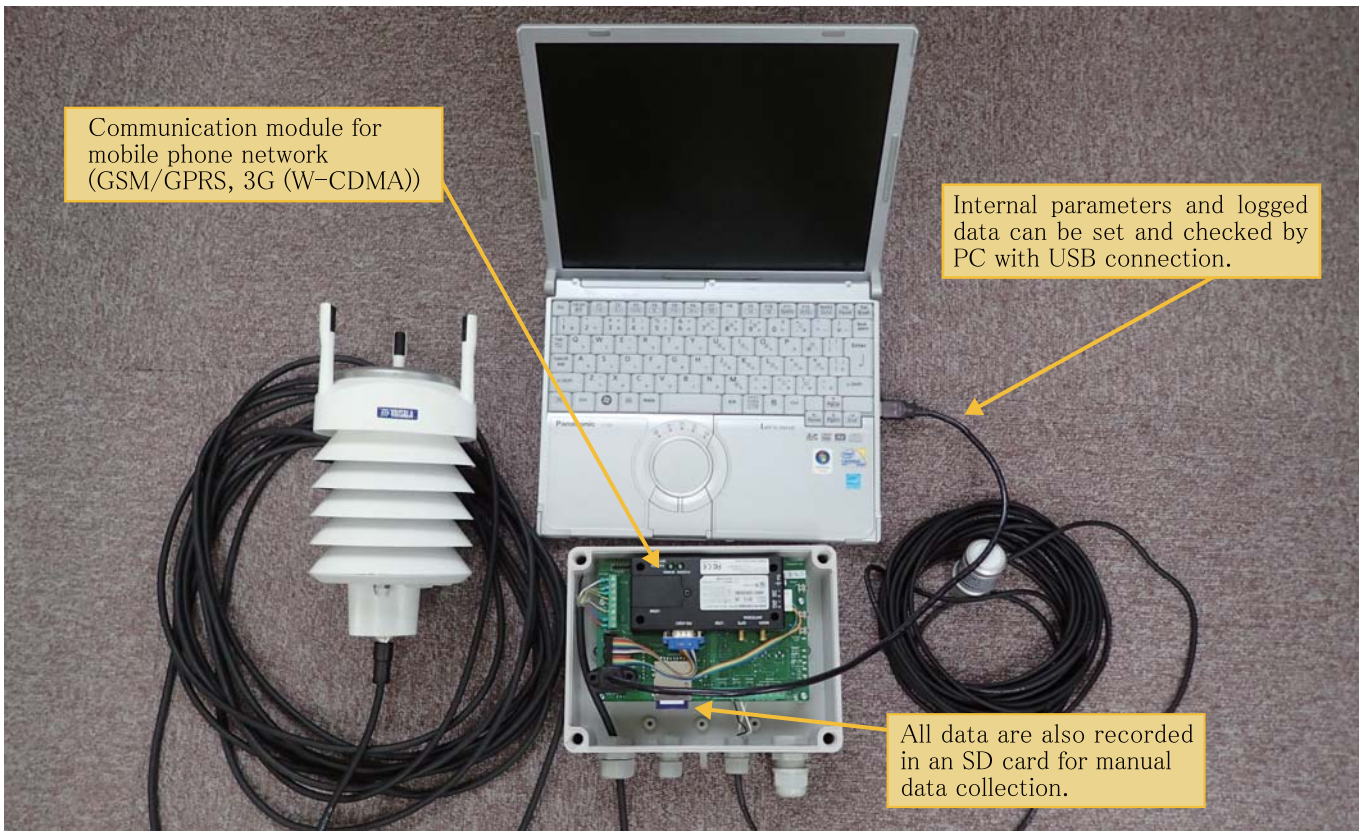
Distributor :
Midori Engineering Lab. Co., Ltd.

SESAME II-05d is a data logging and transmitting system designed for Vaisala Weather Station WXT520. Based on the telecommunication network served by SESAME System, you can get real-time field data measured with this powerful and reliable weather observation apparatus!

SESAME II-05d logs the data of WXT520 (wind speed and direction, air temperature, relative humidity, rain and hail intensity, and barometric pressure) and an additional sensor (pyrheliometer for example) in both its internal memory and an SD card. The data are then sent to a cloud server of SESAME System via the mobile phone network. So the users can access the data in the cloud server via the Internet.

SESAME II-05d can remember upper and lower threshold values for all items of WXT520. When a measured value gets out of the range, an alert message is sent to the server, which will then send an email to the users. So the SESAME System is very useful for emergency measures for weather hazards.





Real time data transmitter, SESAME Ⅱ-05d, for Vaisala Weather Station WXT520

Model No.	SESAME II-05d
Input	All data of WXT520 (wind speed and direction, air temp., relative humidity, rain and hail intensity, and barometric pressure) Pyrheliometer: 0~40/400 mV (integration)*
Interval	Measurement: 1~60 min, 1 min step Transmission: 10/15/20/30 min, 1/2/4/6/12/24 hours
Alarming	All data of WXT520 and Battery voltage (upper and lower thresholds)
Recording Media	Internal: 1 M-bit non-volatile EEPROM (up to 3000 times observation) External: SD card (up to 4GB)
Antenna	Mobile Terminal: 1, GPS: 1

Band Frequency**	GSM/GPRS, 3G (W-CDMA)
Operating Temp.	-20 to 50℃
Power Source	12 VDC, 7~9 Ah Deep cycle battery with solar cell (10 W)
Power Requirement	WXT520: 3 mAh (typical) Data logger: 4 mAh Transmission: 600 mAh

Pyrheliometer: PCM-01

Sensor type	Thermopile
Wave length	305~2800 nm
Sensitivity	5~7 mV/kW/m²
Cable length	10 m

* Another sensor which outputs the same type signal can be replaced.
** For example, Telkomsel is applicable in Indonesia.

Technical data of Vaisala Weather Station WXT520

Wind

SPEED	
range	0 ... 60 m/s
response time	250 ms
accuracy	±3% at 10m/s
output resolutions and units	0.1 m/s, 0.1km/h, 0.1 mph, 0.1 knots
DIRECTION	
azimuth	0 ... 360°
response time	250 ms
accuracy	±3°
output resolution and unit	1°

Liquid Precipitation

RAINFALL	cumulative accumulation after the latest automatic or manual reset
output resolutions and units	0.01 mm, 0.001 inches
accuracy	5%*
RAINFALL DURATION	counting each ten-second increment whenever water droplet is detected
output resolution and unit	10 s
RAIN INTENSITY	one-minute running average in ten-second steps
range	0 ... 200 mm/h (broader range with reduced accuracy)
output resolutions and units	0.1 mm/h, 0.01 inches/h
HAIL	cumulative amount of hits against the collecting surface
output resolutions and units	0.1 hits/cm², 0.01 hits/in², 1 hits
HAIL DURATION	counting each ten-second increment whenever hailstone is detected
output resolution and unit	10 s
HAIL INTENSITY	one-minute running average in ten-second steps
output resolutions and units	0.1 hits/cm²h, 1 hits/in²h, 1 hits/h

* Due to the nature of the phenomenon, deviations caused by spatial variations may exist in precipitation readings, especially in a short time scale. The accuracy specification does not include possible wind induced errors.

Barometric Pressure

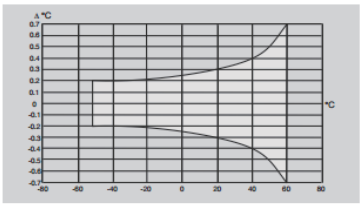
Range	600 ... 1100 hPa
Accuracy	±0.5 hPa at 0 ... +30 °C (+32 ... +86 °F) ±1 hPa at -52 ... +60 °C (-60 ... +140 °F)
Output resolutions and units	0.1 hPa, 10 Pa, 0.0001 bar, 0.1 mmHg, 0.01 inHg

Relative Humidity

Range	0 ... 100 %RH
Accuracy	±3 %RH within 0 ... 90 %RH ±5 %RH within 90 ... 100 %RH
Output resolution and unit	0.1 %RH

Air Temperature

Range	-52 ... +60 °C (-60 ... +140 °F)
Accuracy for sensor at +20 °C	±0.3 °C (±0.5 °F)
Accuracy over temperature range (see graph below)	



Output resolutions and units	0.1 °C, 0.1 °F

General

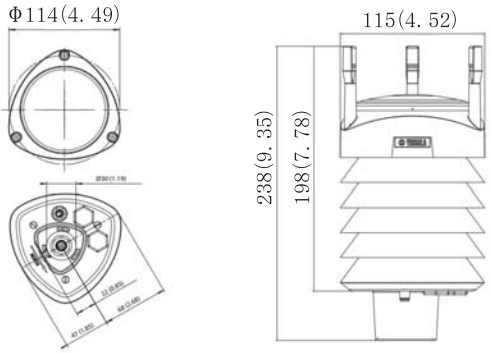
Operating temperature	-52 ... +60 °C (-60 ... +140 °F)
Storage temperature	-60 ... +70 °C (-76 ... +158 °F)
Operating voltage	5 ... 32 VDC
Typical power consumption	3 mA at 12 VDC (with defaults)
Heating voltage	5 ... 32 VDC / 5 ... 30 VAC_{RMS})
Serial data interface	SDI-12, RS-232, RS-485, RS-422, USB connection,
Weight	650 g (1.43 lb)
Housing	IP65
Housing with mounting kit	IP66

Electromagnetic Compatibility

Complies with EMC standard EN61326-1; Industrial Environment	
IEC standards	IEC 60945/61000-4-2 ... 61000-4-6

Dimensions

Dimensions in mm (inches)



Distributor

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